

REMARKS

Applicant has included corrected drawings in compliance with 37 CFR §1.121(d). Specifically, Applicant has removed references to “Vlies” in figures 1, 2 and 3 and replaced those references with the term “Fleece”. This was done because the specification no longer uses the term “vlies” but instead uses the term “Fleece”, the changes to the figures reflect this change. Specifically, in replacement sheet 1, Figure 1, box 3, the term “Fleece” replaced “Vlies” as it was in the original drawings. In Replacement sheet 1, figure 1, box 9, “Fleece” has replaced “Vlies”. In Replacement sheet 1, figure 2, box 3, “Fleece” has replaced “Vlies” as found in the original drawing. In replacement sheet 1, figure 2, box 13, “Fleece” has replaced “Vlies” as found in the original drawing.

Applicant has amended the specification to cure the informalities cited by the Examiner in the Office Action. On page 6, page 8, and page 11 the term “vlies” was changed to “fleece”

Applicant has amended the claims to overcome the Examiner’s rejection under 35 U.S.C. § 112, second paragraph. Claim 17 has been amended for clarity. Specifically, at line 9 the recitation of glass fibre has been expanded to include layers of glass fibre, natural fibre or a combination of the two. Additionally, the term “impregnated” was removed and the term “with a layer” was added. These changes are supported in the specification at page 8, lines 20-25. Applicant has amended claim 21 to cure a typographical error that was introduced in the previous claim amendment. Specifically, Applicant added (C) to both ends of the recited structure so that it was clear that claim 21 and claim 17 referenced the same structure. All the changes to the claim language are

supported by the specification and original disclosure and therefore do not constitute new matter.

The Examiner has rejected claims 17, 21-23, 25-26, 29-31, and 33-34 under 35 U.S.C. § 103(a) as being unpatentable over Doerer et al. (U.S. Patent 5,089,328, herein '328 patent) Specifically, it is the Examiner's position that the cited prior art patent renders obvious the present invention.

Applicant respectfully disagrees.

The cited prior art patent fails to render the present invention obvious. The '328 patent does not teach the present invention, nor does it suggest or speculate a motive for modifying the prior art patent to achieve the present invention.

The '328 patent discloses a multilayer material having a substantially different structure than the one taught by the present invention. The '328 patent is directed at automotive liner panels having a relatively soft foam backed cover sheet, supported by a relatively hard self-supporting core. Col. 1, lines 6-9, '328 patent. Therefore the '328 patent discloses a product consisting of a relatively hard, self-supporting core consisting of a core-forming foam layer. Such a core-forming layer consists of a foam layer which is impregnated with a heat-activated hardening compound coating the cell walls of the foam. The more hardening compound is used to impregnate the foam layer 14', the harder and stiffer will be the core of the base layer of the molded panel after the compound is activated. Other additional layers are then added to this core, optionally separated by adhesive film to prevent the migration of hardening compound.

The '328 patent discloses the assembling of the multilayer product in press or mold. The different layers are positioned one on top of the other and are placed in the

press where the end product panel is formed due to the application of temperature and pressure.

Contrasted with the '328 patent, one of the novel characteristics of the present invention is that the multilayer product is formed and assembled before entering the "forming mold", namely before entering the mold which yields the final product. Page 8, lines 20-25.

The present invention allows a multilayer product to be formed with a varying number of layers in different parts of the overall sheet. One could overlay a second or third element over a portion of the base sheet. This means that different parts of the sheet could be made with different characteristics of rigidity, depending on the number of layers. Therefore, the unique structure of the multilayered product allows the product to be lighter than the existing prior art. Additionally the product can be made with characteristics of flexibility and flexural strength which can be modified according to the specific use of the different parts of the sheet. All this can be accomplished while still maintaining a high degree of mechanical resistance, thanks to the possibility of applying a second or more layers to the original polyurethane sheet.

The ability of the present invention to provide a lighter and more varied product is at the core of its novelty. The '328 patent does not disclose all the novel features of the present invention, nor does it suggest them. In order for prior art patent to render an invention obvious, the prior art patent must actually teach the complete present invention. Here, the prior art patent fails to teach many of the novel characteristics of the present invention. Even though the '328 patent teaches the ability to change the thickness and density of a single layer, it does so in a way that is more complex than the method described by the present invention. The '328 patent requires a continuous variation in the thickness and density of the different areas of each single sheet, together with the

preparation of dies suitably contoured depending on the characteristics of acoustical quality, dampening, density, hardness, and esthetics required for the different areas of the final panel. This is contrasted with the present invention which has the ability to add sheets only to the area which requires increased thickness or density. The cited prior art patent fails to teach the present invention, therefore the '328 patent can not render it obvious.

The Examiner has rejected claim 24 as being unpatentable over Doerer et al. (U.S. Patent 5,089,328 herein '328) in view of Ishii et al. (U.S. Patent 4,938,819 herein '819).

Specifically, it is the Examiner's position that when the teachings of the two cited prior art patents are combined they fully teach what is disclosed in the cited claim.

Applicant respectfully disagrees.

As demonstrated above, the '328 patent does not teach the invention disclosed in claim 17. The current claim is dependent on claim 17, therefore, the '328 patent alone can not render it obvious. The Examiner has combined the '328 patent with the '819 patent in order to obviate the claim. The Examiner has not provided sufficient motivation for combining the prior art patents. The Examiner merely states that it would be obvious to choose the best density for the best application. This does not take into account the widely different manufacture methods of the present invention and the cited prior art. The present invention discloses a semi-rigid polymer that possesses polyurethane resin coatings and protection by glass fibers. The '819 patent does not disclose this. The

differences between impregnating the layers with polyurethane and impregnating the base layer with glass fibers would result in different densities. Therefore, the densities picked in the present invention are selected to work best with the manufacturing process of the present invention. To merely equate the density of the present invention with the cited prior art patent ignores the fact that different materials with different densities are being used. Therefore, the best density for one multilayer product would differ from another depending on the amount of layers presented. Therefore, selecting a set density for the overall product allows the manufacture process to select the appropriate amount of layers and other changeable characteristics that the present invention can modify. The cited prior art patent fails to teach this. The '819 patent fails to teach the present invention, this coupled with the fact that the '328 patent failed to teach the present invention should overcome the rejection based on 35 U.S.C. § 103(a).

The Examiner has rejected claim 27, 28 and 32 under 35 U.S.C. § 103(a) as being unpatentable over Doerer et al. (U.S. Patent 5,089,328) in view of Stevens et al. (U.S. Patent 5,976,646 herein '646).

Applicant respectfully disagrees.

Regarding claim 27 and 28, the '646 patent teaches natural fibers or light fabrics placed on a decorative foam mat. The present invention discloses a method of constructing various multilayer sheets. The Examiner fails to put forward a valid motivation for combining the references other than the presence of natural fibers or light fabrics. The disclosure of natural fibers or light fabrics in the present invention is found in a dependent claim that claims a method of manufacture and details one of the many possible construction materials that may be used while practicing the invention. The '646 patent merely discloses the possible beneficial nature of natural fibers or light fabrics.

Assuming there was a valid motivation for combining the references, which Applicant does not concede, the resulting combination would still not teach the present invention. This is due to the inability of the '328 patent to teach the manufacture of a multilayer sheet as taught by the present invention. Combining the '646 patent merely teaches the '328 manufacture method with the addition of natural fiber or light fabrics.

Regarding claim 32, the Examiner fails to recognize that part of the novelty of the present invention is the ability to alter the density of different areas of the sheet by adding select layers. As a result, determining density allows the sheet's other properties to be varied depending on the given situation or requirement. This is not disclosed in either of the cited prior art patents. Additionally, claim 32 is dependent on claim 17. Combining the cited prior art patents would merely teach the manufacture method of the '328 patent and a specific density of foam. Whatever the resulting combination, it would still fail to teach the present invention.

The Examiner has rejected claims 17, 21-23, and 25 under 35 U.S.C. 103(a) as being unpatentable over Hofer (U.S. Patent 4,034,137 herein '137 patent) in view of Satterfield et al. (U.S. Patent 5,007, 976 herein '976 patent).

With regard to claim 17, while the '137 patent does disclose a method of manufacturing a composite sheet, it fails to disclose all the novelty found in the present invention. The '137 patent discloses a material that is impregnated with thermoresin. Additionally the manufacture process disclosed by the prior art patent requires a liquid phase and a thermosetting phase in order to achieve the end product. The present invention uses a completely different method of construction. As stated earlier, the present invention uses a semi-rigid polymer that is then coupled to one or two layers of

thermosetting rein. The prior art patent requires a liquid to be injected between two base layers, and then compressed and heated. This is a far more complex and expensive an undertaking than the present invention. Additionally, as previously stated, the present invention does not require the use of a forming mold to retain the shape before final processing. The prior art patent requires molds to hold the two layers and liquid medium while they are curing. Combining the '137 patent with the '976 would fail to teach the present invention, since part of the novelty of the present invention is that it does not require the expenses of the previous methods of manufacture.

The Examiner has not put forward a valid reason for combining the two prior art patents. In fact, the prior art patents are not in the same classification, as evidenced by their classification numbers. Even if the '967 and '137 patents were in the same field, which they are clearly not, the Examiner has not disclosed why it would have been obvious to use the current inventions construction method in light of the teaching of the prior art patents. Merely stating that it would have been obvious to use polyurethane in a automobile lining does not demonstrate how it is to be used. Nowhere in the prior art patents is there a teaching of a semirigid polyurethane base that is then coupled to resin layers that allows for a varying number of layers in different parts of the sheet. Page 9, line 10; page 10, line 1-3 of the Specification. The combined prior art patents can not teach the present invention because there is no motivation to combine them.

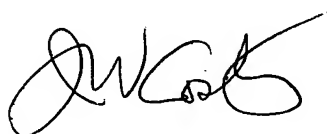
All the claims that depend from claim 17 have the unique characteristics of the method of manufacture taught by the present invention. Therefore claims 21-23 and 25 while sharing some elements with the cited prior art patents, can not be rendered obvious by them. Any combination of the cited prior art patents would not teach where to place the polyurethane, or any of the other elements of manufacture. Nor does merely mentioning the existence of polyurethane teach anything more than mere components to

be used in construction. The combination fails to teach the method itself. The combination lacks a proper basis of suggestion or motivation found in the original cited prior art patents. Therefore, the rejection based on 35 U.S.C. § 103(a) should be removed.

CONCLUSION

An early and favorable action is earnestly solicited.

Respectfully Submitted,



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